Arjuna JEE 2023

Basic Maths

DPP-01

1. Given ($x^2 + 7x \geq 8$) is called as _____.

(1) Equation (2) Inequation

(3) Polynomial (4) None of these

2. If we multiply whole inequality by a negative number then

(1) sign of inequality remains same.

(2) sign of inequality gets reversed.

(3) depends, which negative number is multiplied.

(4) depends, both side of inequality are positive or negative.

3. "Zero" is -

(1) positive number

(2) negative number

(3) both positive as well as negative

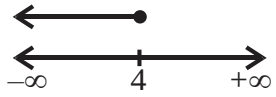
(4) neither positive nor negative

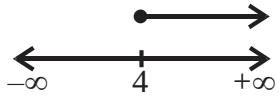
4. If $\alpha \geq \beta$ then

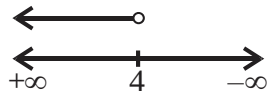
(1) $2\alpha \geq 3\beta$ (2) $\alpha \leq -\beta$

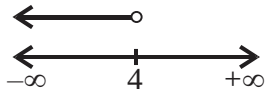
(3) $\alpha^2 > \beta^2$ (4) $-\alpha \leq -\beta$

5. Correct number line representation for: ($x < 4$)

(1) 

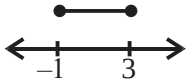
(2) 

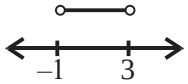
(3) 

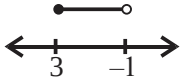
(4) 

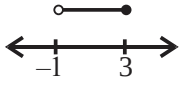
6. Correct number line representation for:

($-1 < x \leq 3$)

(1) 

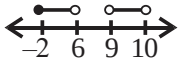
(2) 

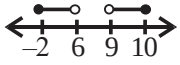
(3) 

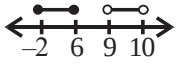
(4) 

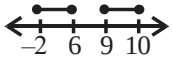
7. Correct number line representation for:

$x \in [-2, 6) \cup (9, 10]$

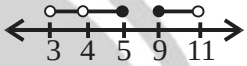
(1) 

(2) 

(3) 

(4) 

8. Correct option representation



(1) $x \in (3, 5] \cup [9, 11)$

(2) $x \in (3, 5] \cup [9, 11) - \{4\}$

(3) $x \in (3, 4) \cup (4, 5) \cup [3, 11)$

(4) $x \in (3, 4) \cup (4, 5] \cup (9, 11)$

9. If α & β lies on opposite sides of "zero" on number line then

(1) $\alpha > \beta$ (2) $\beta > \alpha$

(3) $\alpha\beta < 0$ (4) $\alpha\beta > 0$

10. Solution of inequality: $\frac{x-8}{2} \leq 5$

(1) $x < 2$ (2) $x \geq 18$

(3) $x \leq 18$ (4) $x \geq 2$

11. Solution of inequality $(x-2)(x-3) \geq 0$

(1) $x \in (-\infty, 2) \cup (3, \infty)$

(2) $x \in (-\infty, 3)$

(3) $x \in (-\infty, 2] \cup [3, \infty)$

(4) $x \in [2, 3]$

12. Solution of inequality $\frac{(x-1)(x-5)}{(x-3)} > 0$

(1) $x \in (3, 5)$

(2) $x \in (1, 3) \cup (5, \infty)$

(3) $x \in (5, \infty)$

(4) $x \in (-\infty, 3)$

13. Solution of inequality $\frac{1}{x-5}<3$ is

(1) $x \in (-\infty, 5)$

(2) $x \in \left(\frac{16}{3}, \infty\right)$

(3) $x \in \left(5, \frac{16}{3}\right)$

(4) $x \in (-\infty, 5) \cup \left(\frac{16}{3}, \infty\right)$

14. Values of 'x' satisfying: $\frac{x-1}{2-x} \geq 0$

(1) $x \in [1, 2]$

(2) $x \in [1, 2)$

(3) $x \in (-\infty, 1] \cup (2, \infty)$

(4) $x \in (1, 2)$

15. Sum of all integral values of x satisfying: $\frac{x+5}{1-x} \geq 0$

(1) –14

(2) +14

(3) –15

(4) 15

Answer Key

1. (2)
2. (2)
3. (4)
4. (4)
5. (4)
6. (4)
7. (2)
8. (2)
9. (3)
10. (3)
11. (3)
12. (2)
13. (4)
14. (2)
15. (3)

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